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NEWS  1          Web Page URLs for STN Seminar Schedule - N. America
NEWS  2  Dec 17  The CA Lexicon available in the CAPLUS and CA files
NEWS  3  Feb 06  Engineering Information Encompass files have new names
NEWS  4  Feb 16  TOXLINE no longer being updated
NEWS  5  Apr 23  Search Derwent WPINDEX by chemical structure
NEWS  6  Apr 23  PRE-1967 REFERENCES NOW SEARCHABLE IN CAPLUS AND CA
NEWS  7  May 07  DGENE Reload
NEWS  8  Jun 20  Published patent applications (A1) are now in USPATFULL
NEWS  9  JUL 11  New SDI alert frequency now available in Derwent's
                 DWPI and JPO

NEWS EXPRESS  August 16 CURRENT WINDOWS VERSION IS V6.0c,
              CURRENT MACINTOSH VERSION IS V6.0 (ENG) AND V6.0 (JP),
              AND CURRENT DISCOVER FILE IS DATED 07 AUGUST 2001
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NEWS INTER    General Internet Information
NEWS LOGIN    Welcome Banner and News Items
NEWS PHONE    Direct Dial and Telecommunication Network Access to STN
NEWS WWW      CAS World Wide Web Site (general information)
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FILE 'HOME' ENTERED AT 14:52:34 ON 16 AUG 2001

=> file medline biosis embase caplus uspatfull

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FULL ESTIMATED COST	0.21	0.21

FILE 'MEDLINE' ENTERED AT 14:53:16 ON 16 AUG 2001

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FILE 'USPATFULL' ENTERED AT 14:53:16 ON 16 AUG 2001
CA INDEXING COPYRIGHT (C) 2001 AMERICAN CHEMICAL SOCIETY (ACS)

=> s kcnq4 (s) potassium (s) channel (s) nucle?

L1 8 KCNQ4 (S) POTASSIUM (S) CHANNEL (S) NUCLE?

=> dup rem l1

PROCESSING COMPLETED FOR L1
L2 5 DUP REM L1 (3 DUPLICATES REMOVED)

=> d l2 total ibib abs

L2 ANSWER 1 OF 5 MEDLINE DUPLICATE 1
ACCESSION NUMBER: 2001247527 MEDLINE
DOCUMENT NUMBER: 21167787 PubMed ID: 11136720
TITLE: An ERG channel inhibitor from the scorpion Buthus eupeus.
AUTHOR: Korolkova Y V; Kozlov S A; Lipkin A V; Pluzhnikov K A; Hadley J K; Filippov A K; Brown D A; Angelo K; Strobaek D; Jespersen T; Olesen S P; Jensen B S; Grishin E V
CORPORATE SOURCE: Shemyakin and Ovchinnikov Institute of Bioorganic Chemistry, Russian Academy of Sciences, Ul. Miklukho-Maklaya, 16/10, 117997, GSP-7, Moscow, Russia.. july@ibch.ru
SOURCE: JOURNAL OF BIOLOGICAL CHEMISTRY, (2001 Mar 30) 276 (13) 9868-76.
Journal code: HIV; 2985121R. ISSN: 0021-9258.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: GENBANK-AF176713
ENTRY MONTH: 200103
ENTRY DATE: Entered STN: 20010517
Last Updated on STN: 20010517
Entered Medline: 20010510
AB . . . (1996) FEBS Lett. 384, 277-280). Here we report the cloning, expression, and selectivity of BeKm-1. A full-length cDNA of 365 **nucleotides** encoding the precursor of BeKm-1 was isolated using the rapid amplification of cDNA ends polymerase chain reaction technique from mRNA. . . amino acid residues. The mature toxin consists of 36 amino acid residues. BeKm-1 belongs to the family of scorpion venom **potassium channel** blockers and represents a new subgroup of these toxins. The recombinant BeKm-1 was produced as a Protein A fusion product. . . partly inhibited the native M-like current in NG108-15 at 100 nM. The effect of the recombinant BeKm-1 on different K(+) **channels** was also studied. BeKm-1 inhibited hERG1 **channels** with an IC(50) of 3.3 nM, but had no effect at 100 nM on hEAG, hSK1, rSK2, hIK, hBK, KCNQ1 KCNE1, KCNQ2/KCNQ3, **KCNQ4 channels**, and minimal effect on rBLK1. Thus, BeKm-1 was shown to be a potent specific blocker of hERG1 **potassium channels**.

L2 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 2000:742115 CAPLUS

ACCESSION NUMBER: [illegible]
TITLE: Cloning of a novel potassium channel gene and its therapeutic uses
INVENTOR(S): Petrukhin, Konstantin; Tuskey, [illegible]; [illegible]; Metaker, Michael L.
PATENT ASSIGNEE(S): Merck & Co., Inc., USA
SOURCE: PCT Int. Appl., 44 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000061606	A1	20001019	WO 2000-US9587	20000411

W: CA, JP, US
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE
PRIORITY APPLN. INFO.: US 1999-129274 P 19990414
REFERENCE COUNT: 2
REFERENCE(S): (1) Kananura; NeuroReport 2000, V11(9), P2063 CAPLUS
(2) Wang; Science 1998, V282, P1890 CAPLUS

IT Primers (**nucleic** acid)
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(DNA, for screening **KCNQ4** gene mutation; cloning of novel **potassium channel** protein KCNQ5 gene and its therapeutic uses)

L2 ANSWER 1 OF [illegible] CAPLUS COPYRIGHT [illegible] ACS
ACCESSION NUMBER: [illegible] CAPLUS
DOCUMENT NUMBER: 133:145918
TITLE: Protein and DNA sequences of a novel potassium channel
protein KCNQ4 and the uses thereof in drug screening
INVENTOR(S): Jentsch, Thomas J.
PATENT ASSIGNEE(S): Neurosearch A/S, Den.
SOURCE: PCT Int. Appl., 65 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000044786	A1	20000803	WO 2000-DK24	20000119

W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG
PRIORITY APPLN. INFO.: DK 1999-76 A 19990126
DK 1999-693 A 19990519

REFERENCE COUNT: 7
REFERENCE(S): (1) Biervert, C; Science 1998, V279, P403 CAPLUS
(2) Hong-Sheng, W; Science 1998, V282, P1890
(3) Kubisch, C; Cell 1999, V96(3), P437 CAPLUS
(6) Univ Utah Res Found; WO 9723598 A 1997 CAPLUS
(7) Univ Utah Res Found; WO 9921875 A 1999 CAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

IT Primers (**nucleic** acid)

RL: ABS (Analytical biochemistry); ANST (Analytical study); DNA (...
DNA, for screening **KCNQ4** ...
sequences of novel **potassium channel** ...
KCNQ4 and uses thereof in drug screening)
IT Probes, **nucleic** acid)
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses)
(for screening **KCNQ4** gene mutation; protein and DNA sequences
of novel **potassium channel** protein **KCNQ4**
and uses thereof in drug screening)
IT 223139-55-2 286968-09-0
RL: BOC (Biological occurrence); PRP (Properties); THU (Therapeutic use);
BIOL (Biological study); OCCU (Occurrence); USES (Uses)
nucleotide sequence; protein and DNA sequences of novel
potassium channel protein **KCNQ4** and uses
thereof in drug screening)
IT 286968-66-9, 3': PN: WO0044786 PAGE: 26 unclaimed DNA (...
PN: WO0044786 PAGE: 26 unclaimed DNA (...
PAGE: 26 unclaimed DNA (...
unclaimed
DNA (...
286968-71-7,
42: PN: WO0044786 PAGE: 26 unclaimed DNA
RL: PRP (Properties)
(unclaimed **nucleotide** sequence; protein and DNA sequences of
a novel **potassium channel** protein **KCNQ4**
and the uses thereof in drug screening)

L2 ANSWER 4 OF 5 MEDLINE DUPLICATE 2
ACCESSION NUMBER: 20000226104 MEDLINE
DOCUMENT NUMBER: 20226104 PubMed ID: 10760300
TITLE: KCNQ4, a K+ channel mutated in a form of dominant deafness,
is expressed in the inner ear and the central auditory pathway.
COMMENT: Comment in: Proc Natl Acad Sci U S A. 2000 Apr 11;97(8):3786-8
AUTHOR: Kharkovets T; Hardelin J P; Safieddine S; Schweizer M; El-Amraoui A; Petit C; Jentsch T J
CORPORATE SOURCE: Zentrum fur Molekulare Neurobiologie Hamburg, Universitat Hamburg, Martinistrasse 52, D-20246 Hamburg, Germany.
SOURCE: PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, (2000 Apr 11) 97 (8) 4215-20.
Journal code: PV3; 7505876. ISSN: 0027-8424.
PUB. COUNTRY: United States
Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200005
ENTRY DATE: Entered STN: 20000525
Last Updated on STN: 20000525
Entered Medline: 20000517

AB Mutations in the **potassium channel** gene **KCNQ4** underlie DFNA2, an autosomal dominant form of progressive hearing loss in humans. In the mouse cochlea, the transcript has been found exclusively in the outer hair cells. By using specific antibodies, we now show that **KCNQ4** is situated at the basal membrane of these sensory cells. In the vestibular organs, **KCNQ4** is restricted to the type I hair cells and the afferent calyx-like nerve endings ensheathing these sensory cells. Several lines of evidence suggest that **KCNQ4** underlies the I K,n and g(K,L) currents that have been described in the outer and type I hair cells, respectively, and that are already open at resting potentials. **KCNQ4** is also expressed in neurons of many, but not all, **nuclei** of the central auditory pathway, and is absent from most other brain regions. It is present, e.g., in the cochlear **nuclei**, the **nuclei** of the lateral lemniscus, and the

inferior colliculus. This is the first ion **channel** shown to be specifically expressed in a sensory pathway. Moreover, the expression pattern of **KCNQ4** in the mouse auditory system raises the possibility of a central component in the DFNA [illegible].

L2 ANSWER 5 OF 5 CAPLUS COPYRIGHT [illegible] ACS
ACCESSION NUMBER: [illegible]
DOCUMENT NUMBER: [illegible]
TITLE: KCNQ4, a K+ channel [illegible] outer hair cells, is mutated in a [illegible]
AUTHOR(S): Kubisch, Christian; Schroeder, B[illegible]; Thomas; Lutjohann, Bjorn; El-Amraoui, A[illegible]; Sandrine; Petit, Christine; Jentsch, Thomas J.
CORPORATE SOURCE: Zentrum fur Molekulare Neurobiologie Hamburg Universitat Hamburg, Hamburg, D-20246, Germany
SOURCE: Cell (Cambridge, Mass.) (1999), 96(3), 437-446
CODEN: CELLB5; ISSN: 0092-8674
PUBLISHER: Cell Press
DOCUMENT TYPE: Journal
LANGUAGE: English
REFERENCE COUNT: 43
REFERENCE(S): (1) Barhanin, J; Nature 1996, V384, P78 CAPLUS
(2) Biervert, C; Science 1998, V279, P403 CAPLUS
(3) Charlier, C; Nat Genet 1998, V18, P53 CAPLUS
(4) Chouabe, C; EMBO J 1997, V16, P5472 CAPLUS
(6) Denoyelle, F; Nature 1998, V393, P319 CAPLUS
ALL CITATIONS AVAILABLE IN THE RE FORMAT

IT 223239-55-2 223239-56-3 223239-57-4 223239-58-5 [illegible]
223239-60-9 223239-61-0 223239-62-1 223239-63-2 [illegible]
223239-65-4 223239-66-5 223239-67-6 223239-68-7 [illegible]
RL: PRP (Properties)
(**nucleotide** sequence; cDNA and genomic sequences of human **KCNQ4**, **potassium channel** expressed in sensory outer hair cells, that is mutated in dominant deafness)

=> log y

COST IN U.S. DOLLARS

	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	13.05	13.26

STN INTERNATIONAL LOGOFF AT 14:54:29 ON 16 AUG 2001

09492361results

SEQ ID NO 1

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RESULT   1
AX032994
LOCUS       AX032994     2335 bp    DNA             PAT       [illegible]
DEFINITION  Sequence 1 from Patent WO0044786.
ACCESSION   AX032994
VERSION     AX032994.1  GI:10279897
KEYWORDS    .
SOURCE      human.
  ORGANISM  Homo sapiens
            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
            Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
REFERENCE   1  bases 1 to 2335
  AUTHORS   Jentsch,T J.
  TITLE     Novel potassium channels and genes encoding these potassium
            channels
  JOURNAL   Patent: WO 0044786-A 1 03-AUG-2000;
            NEUROSEARCH AS (DK)
FEATURES             Location/Qualifiers
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                     /db_xref="taxon:9606"
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BASE COUNT      396 a    812 c    719 g    408 t
ORIGIN


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  Best Local Similarity   100.0%;  Pred. No. 0;
  Matches 2335;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy          1 agccatgcgtctctgagcgccccgagcgcgcccccgccccggaccgtgcccgggccccgg 60
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Qy         61 cgcccccagcccggcgccgcccatggccgaggcccccccgcggcgcctcggcctgggtct 120
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              [illegible]
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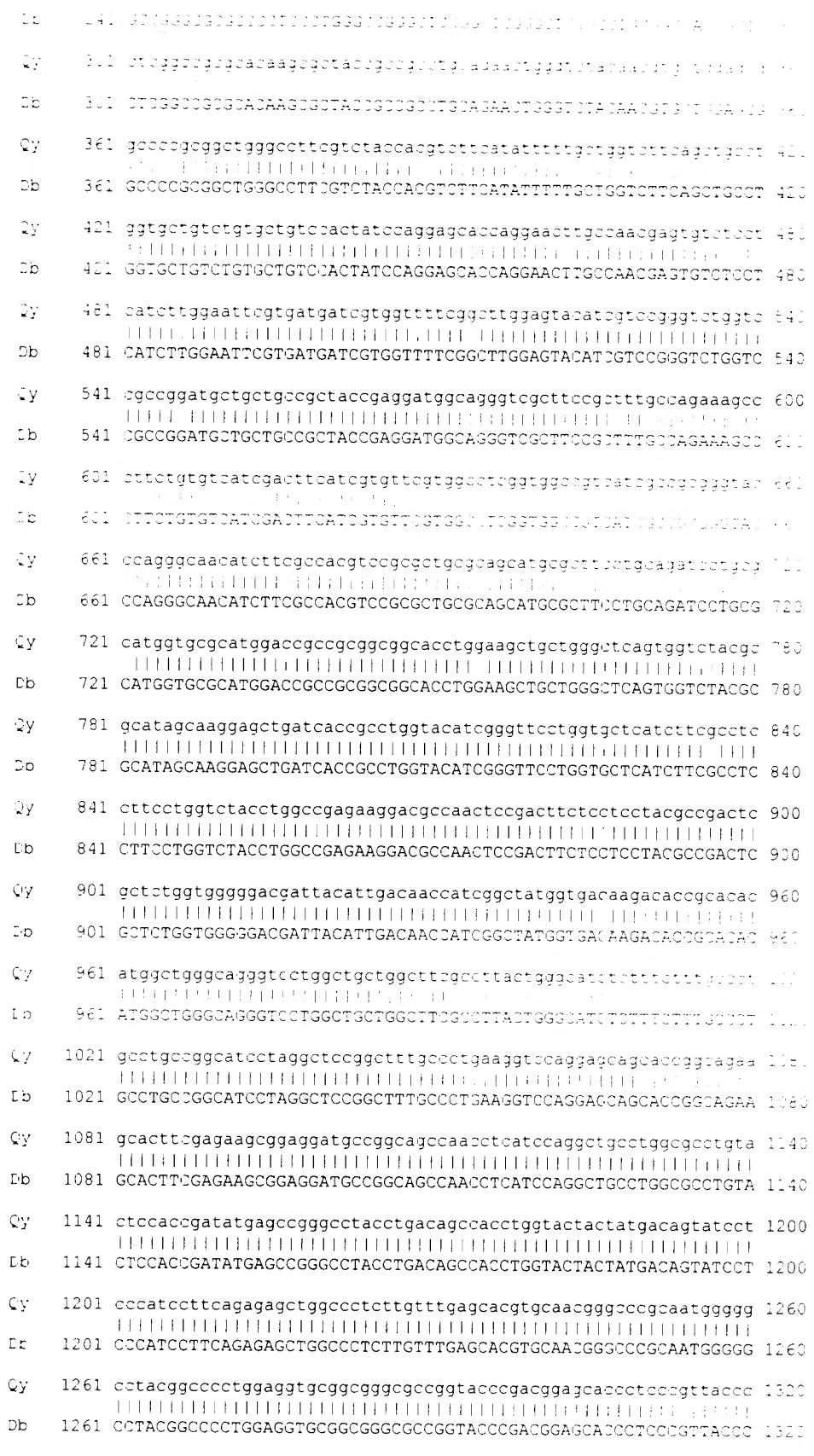

RESULT 2
AF105202

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DEFINITION  Homo sapiens voltage-gated potassium channel [illegible]
            complete cds.
ACCESSION   AF105202
VERSION     AF105202.1  GI:4262522
KEYWORDS    .
SOURCE      human.
  ORGANISM  Homo sapiens
            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
            Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
REFERENCE   1  (bases 1 to 2335)
  AUTHORS   Kubisch,C., Schroeder,B.C., Friedrich,T., Lutjohann,B.,
            El-Amraoui,A., Marlin,S., Petit,C. and Jentsch,T.J.
  TITLE     KCNQ4, a novel potassium channel expressed in sensory outer hair
            cells, is mutated in dominant deafness
  JOURNAL   Cell 96 (3), 437-446 (1999)
  MEDLINE   99148276
REFERENCE   2  (bases 1 to 2335)
  AUTHORS   Kubisch,C., Schroeder,B.C., Friedrich,T., Luetjohann,B. and
            Jentsch,T.J.
  TITLE     Direct Submission
  JOURNAL   Submitted (10-NOV-1998) Zentrum fuer Molekulare Neurobiologie
            Hamburg (ZMNH), University of Hamburg, Martinistrasse 85, Hamburg
            20246, Germany
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BASE COUNT      396 a    812 c    719 g    4[illegible] t
ORIGIN


  Query Match             100.0%;  Score 2335;  DB 88;  Length 2335;
  Best Local Similarity   100.0%;  Pred. No. 0;
  Matches 2335;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

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Qy        121 cccgcccggggacgcccccccgcgcggagctagtggcgctcacggccgtgcagagcgaaca 180
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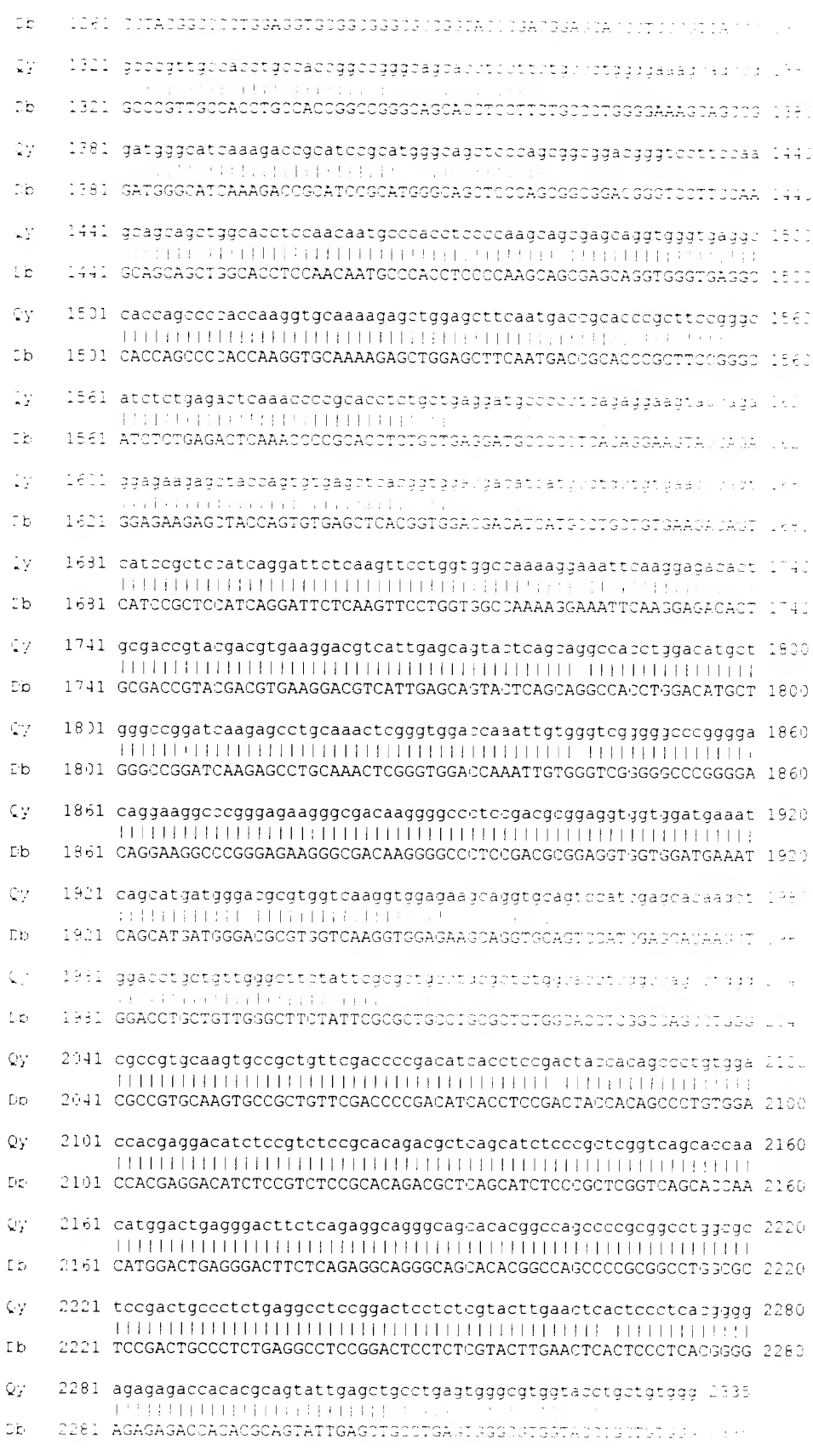

RESULT 1
AAA47618
ID AAA47618 standard; cDNA; 2335 BP.
XX
AC AAA47618;
XX
DT 19-NOV-2001 first entry
XX
DE KCNQ4 Potassium channel gene.
XX
KW KCNQ4; potassium channel; cardiac arrhythmia; neonatal epilepsy;
KW deafness; probes; treatment; therapy; transgenic animal; antibody;
KW agonist; antagonist; tinnitus; hearing loss; neonatal deafness;
KW presbyacusis; affective disorder, Alzheimer's disease; anxiety;
KW ataxia; cognitive deficits; compulsive behavior; dementia;
KW depression; Huntington's disease; mania; memory impairment;
KW motor disorders; neurodegenerative disease; Parkinson's disease;
KW Pick's disease; psychosis; schizophrenia; spinal cord damage;
KW stroke; tremor; ds.
XX
OS Homo sapiens.
XX
FH Key Location/Qualifiers
FT CDS 83..2170
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XX
PN WO200044786-A1.
XX
PD 03-AUG-2000.
XX
PF 19-JAN-2000; 2000WO-DK00024.
XX
PR 26-JAN-1999; 99DK-0000076.
PR 19-MAY-1999; 99DK-0000693.
XX
PA (NEUR-) NEUROSEARCH AS.
XX
PI Jentsch TJ;
XX
DR WPI; 2000-548813/50.
DR P-PSDB; AAB01476.
XX
PT Nucleic acids encoding the novel KCNQ4 potassium channel subunit,
PT useful e.g. for treating tinnitus, deafness, Alzheimer's and
PT Parkinson's diseases
XX
PS Claim 1; Page 43-48; 65pp; English.
XX
CC Mutations in 3 known genes of the KCNQ branch of the potassium
CC channel gene family underlie inherited cardiac arrhythmia's, neonatal
CC epilepsy and in some cases associated with deafness. KCNQ4 has been
CC mapped to the DFNA2 locus for autosomal dominant hearing loss, and
CC a dominant negative KCNQ4 mutation that causes deafness in a DFNA2
CC pedigree has been identified. KCNQ4 is the first potassium channel
CC gene underlying non-syndromic deafness. KCNQ4 forms heteromeric
CC channels with other KCNQ channel subunits, especially KCNQ3.
CC Nucleotides encoding the KCNQ4 protein and the protein itself may be
CC used in the prevention, treatment and diagnosis of diseases
CC associated with inappropriate KCNQ4 expression. The nucleotides may
CC also be used as DNA probes in diagnostic assays (e.g. polymerase
CC chain reactions (PCR)) to detect and quantitate the presence of
CC similar nucleic acid sequences in samples and to identify mutations
CC within them, and hence which patients may be in need of restorative
CC therapy. They may also be used to study the expression and function
CC of KCNQ4 polypeptides and their role in metabolism, for example
CC through the production of transgenic animals. The KCNQ4 polypeptides

```
CC   may be used as antigens in the production of anti-[illegible]
CC   identify modulators (agonists and antagonists) of KCNQ4 expression
CC   and activity. The anti-KCNQ4 antibodies and KCNQ4 antagonists may
CC   also be used to down regulate KCNQ4 expression and activity. They may
CC   be used in this way to treat tinnitus, loss of hearing (especially
CC   progressive hearing loss, neonatal deafness and presbyacusis
CC   (deafness of the elderly)) and disease or adverse conditions of the
CC   central nervous system (CNS) such as affective disorder, Alzheimer's
CC   disease, anxiety, ataxia, CNS damage caused by trauma, stroke or
CC   neurodegenerative illness, cognitive deficits, compulsive behavior,
CC   dementia, depression, Huntington's disease, mania, memory impairment,
CC   memory disorders and dysfunctions, motion disorders, motor disorders,
CC   neurodegenerative diseases, Parkinson's disease, Parkinson-like motor
CC   disorders, phobias, Pick's disease, psychosis, schizophrenia, spinal
CC   cord damage, stroke and/or tremor. Conversely, antisense nucleic acid
CC   molecules may be administered to down regulate KCNQ4 expression by
CC   binding with the cells own KCNQ4 genes and preventing their
CC   expression.
XX
SQ   Sequence 2335 BP; 396 A; 812 C; 719 G; 408 T; 0 other;

  Query Match             100.0%;  Score 2335;  DB 21;  Length 2335;
  Best Local Similarity   100.0%;  Pred. No. 0;
  Matches 2335;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

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Db          1 agccatgcgtctctgagcgccccgagcgcgcccccgccccggaccgtgcccgggccccgg 60

Qy         61 cgcccccagcccggcgccgcccatggccgaggcccccccgcgccgcctcggcctgggtcc 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db         61 cgcccccagcccggcgccgcccatggccgaggcccccccgcgccgcctcggcctgggtcc 120

Qy        121 cccgcccggggacgccccccgcgcggagctagtggcgctcacggccgtgcagagcgaaca 180
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        121 cccgcccggggacgccccccgcgcggagctagtggcgctcacggccgtgcagagcgaaca 180

Qy        181 gggcgaggcgggcgggggcggctccccgcgccgcctcggcctcctgggcagccccctgcc 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        181 gggcgaggcgggcgggggcggctccccgcgccgcctcggcctcctgggcagccccctgcc 240

Qy        241 gccgggcgcgcccctccctgggccgggctccggctcgggctccgcctgcggccagcgctc 300
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
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Qy        301 ctcggccgcgcacaagcgctaccgccgcctgcagaactgggtctacaacgtgctggagcg 360
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
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Qy        361 gccccgcggctgggccttcgtctaccacgtcttcatatttttgctggtcttcagctgcct 420
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Qy        421 ggtgctgtctgtgctgtccactatccaggagcaccaggaacttgccaacgagtgtctcct 480
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Qy        481 catcttggaattcgtgatgatcgtggttttcggcttggagtacatcgtccgggtctggtc 540
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Qy        541 cgccggatgctgctgccgctaccgaggatggcagggtcgcttccgctttgccagaaagcc 600
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Qy        601 cttctgtgtcatcgacttcatcgtgttcgtggcctcggtggccgtcatcgccgcgggtac 660
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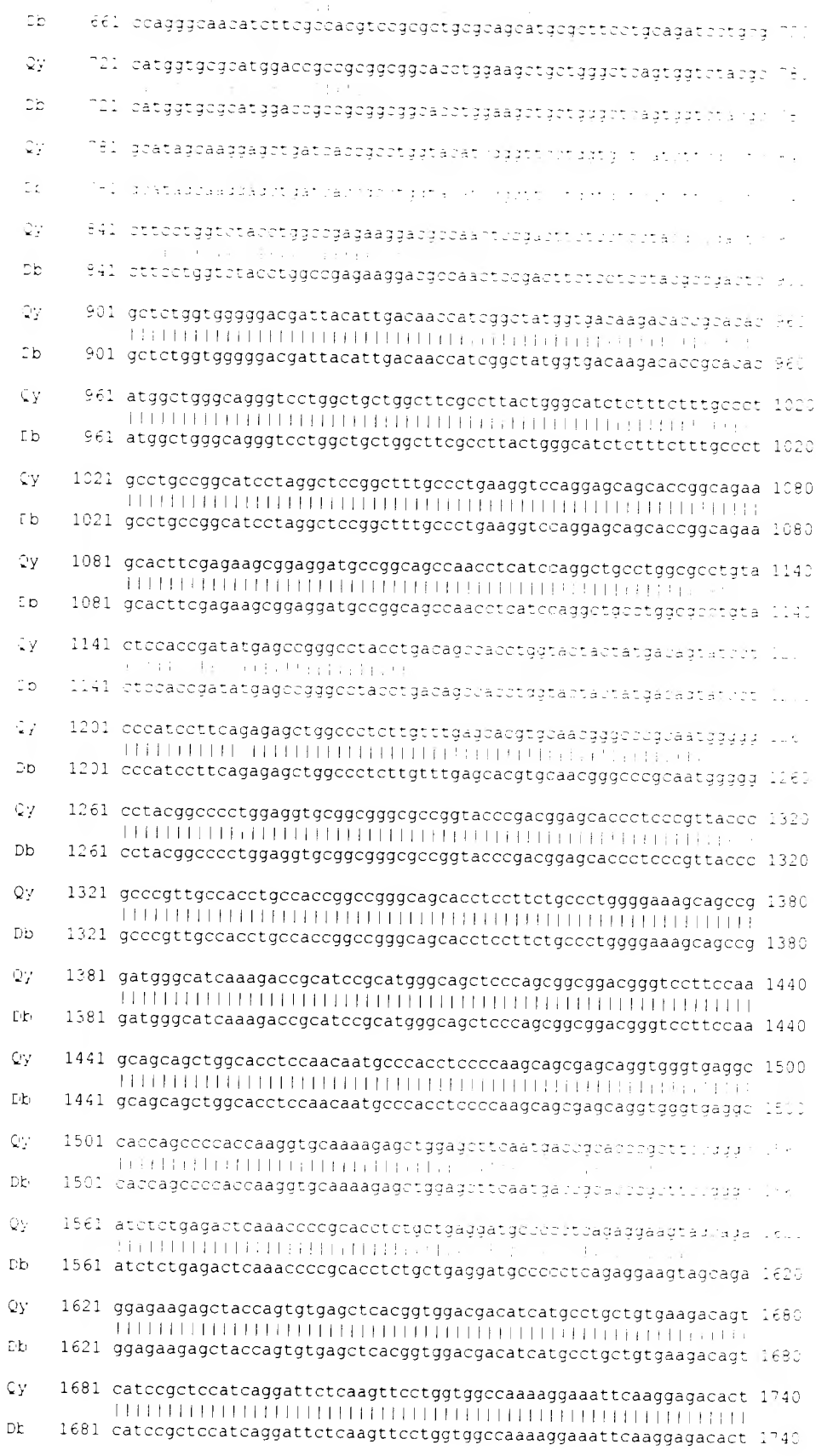

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Db   1801 gggccggatcaagagcctgcaaactcgggtggaccaaattgtgggtcgggggcccgggga [illegible]

Qy   1861 caggaaggcccgggagaagggcgacaaggggccctccgacgcggaggtggtggatgaaat 1920

Db   1861 caggaaggcccgggagaagggcgacaaggggccctccgacgcggaggtggtggatgaaat 1920

Qy   1921 cagcatgatgggacgcgtggtcaaggtggagaagcaggtgcagtccatcgagcacaagct 1980

Db   1921 cagcatgatgggacgcgtggtcaaggtggagaagcaggtgcagtccatcgagcacaagct [illegible]

Qy   1981 ggacctgctgttgggcttctattcgcgctgcct[illegible]

Db   1981 ggacctgctgttgggcttctattcgc[illegible]

Qy   2041 [illegible]

Db   2041 cgccgtgcaagtgccgctgttcgaccccgacatcacctccgactaccacag[illegible]

Qy   2101 ccacgaggacatctccgtctccgcacagacgctcagcatctcccgctcggtcagcaccaa [illegible]

Db   2101 ccacgaggacatctccgtctccgcacagacgctcagcatctcccgctcggtcagcaccaa [illegible]

Qy   2161 catggactgagggacttctcagaggcagggcagcacacggccagccccgcggcctggcgc 2220
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Qy   2221 tccgactgccctctgaggcctccggactcctctcgtacttgaactcactccctcacgggg 2280
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db   2221 tccgactgccctctgaggcctccggactcctctcgtacttgaactcactccctcacgggg 2280

Qy   2281 agagagaccacacgcagtattgagctgcctgagtgggcgtggtacctgctgtggg 2335
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SEQ ID NO 2

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RESULT   1
AAB01476
ID   AAB01476 standard; Protein; 695 AA.
XX
AC   AAB01476;
XX
DT   08-NOV-2000  (first entry)
XX
DE   KCNQ4 Potassium channel protein.
XX
KW   KCNQ4; potassium channel; cardiac arrhythmia; neonatal epilepsy;
KW   deafness; probes; treatment; therapy; transgenic animal; antibody;
KW   agonist; antagonist; tinnitus; hearing loss; neonatal deafness;
KW   presbyacusis; affective disorder, Alzheimer's disease; anxiety;
KW   ataxia; cognitive deficits; compulsive behavior; dementia;
KW   depression; Huntington's disease; mania; memory impairment;
KW   motor disorders; neurodegenerative disease; Parkinson's disease;
KW   Pick's disease; psychosis; schizophrenia; spinal cord damage;
KW   stroke; tremor.
XX
OS   Homo sapiens.
XX
PN   WO200044796-A1.
XX
PD   03-AUG-2000.
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XX
PP [illegible]
XX
PR 26-JAN-1999; 99EP-1000076.
PR 19-MAY-1999; 99DP-1000693.
XX
PA NEUP- NEUROSEARCH AS.
XX
PI Jentsch TJ;
XX
DR WPI; 2000-548813/50.
DR N-PSDB; AAA47619.
XX
PT Nucleic acids encoding the novel KCNQ4 potassium channel subunit,
PT useful e.g. for treating tinnitus, deafness, Alzheimer's and
PT Parkinson's diseases
XX
PS Claim 8; Page 48-51; 65pp; English.
XX
CC Mutations in 3 known genes of the KCNQ branch of the potassium
CC channel gene family underlie inherited cardiac arrhythmia's, neonatal
CC epilepsy and in some cases associated with deafness. KCNQ4 has been
CC mapped to the DFNA2 locus for autosomal dominant hearing loss, and
CC a dominant negative KCNQ4 mutation that causes deafness in a DFNA
CC pedigree has been identified. KCNQ4 is the first g[illegible]
CC gene underlying non-syndromic deafness. KCNQ4 [illegible]
CC channels with other KCNQ channel subunits, [illegible]
CC Nucleotides encoding the KCNQ4 protein and the protein itself may be
CC used in the prevention, treatment and diagnosis of diseases
CC associated with inappropriate KCNQ4 expression. The nucleotides may
CC also be used as DNA probes in diagnostic assays (e.g. polymerase
CC chain reactions (PCR)) to detect and quantitate the presence of
CC similar nucleic acid sequences in samples and to identify mutations
CC within them, and hence which patients may be in need of restorative
CC therapy. They may also be used to study the expression and function
CC of KCNQ4 polypeptides and their role in metabolism, for example
CC through the production of transgenic animals. The KCNQ4 polypeptides
CC may be used as antigens in the production of antibodies and to
CC identify modulators (agonists and antagonists) of KCNQ4 expression
CC and activity. The anti-KCNQ4 antibodies and KCNQ4 antagonists may
CC also be used to down regulate KCNQ4 expression and activity. They may
CC be used in this way to treat tinnitus, loss of hearing (especially
CC progressive hearing loss, neonatal deafness and presbyacusis
CC (deafness of the elderly)) and disease or adverse conditions of the
CC central nervous system (CNS) such as affective disorder, Alzheimer's
CC disease, anxiety, ataxia, CNS damage caused by trauma, stroke or
CC neurodegenerative illness, cognitive deficits, [illegible]
CC dementia, depression, Huntington's disease, mania, memory impairment,
CC memory disorders and dysfunctions, motion disorders, motor disorders,
CC neurodegenerative diseases, Parkinson's disease, Parkinson-like [illegible]
CC disorders, phobias, Pick's disease, psychosis, schizophrenia, spinal
CC cord damage, stroke and/or tremor. Conversely, antisense nucleic acid
CC molecules may be administered to down regulate KCNQ4 expression by
CC binding with the cells own KCNQ4 genes and preventing their
CC expression.
XX
SQ Sequence 695 AA;

  Query Match   100.0%; Score 3608; DB 21; Length 695;
  Best Local Similarity 100.0%; Pred. No. 0;
  Matches 695; Conservative   0; Mismatches   0; Indels   0; Gaps   0;

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Db   1 maeapprrlglgpppgdapraelvaltavqseqgeaggggsprrlgllgsplppgaplpg 60

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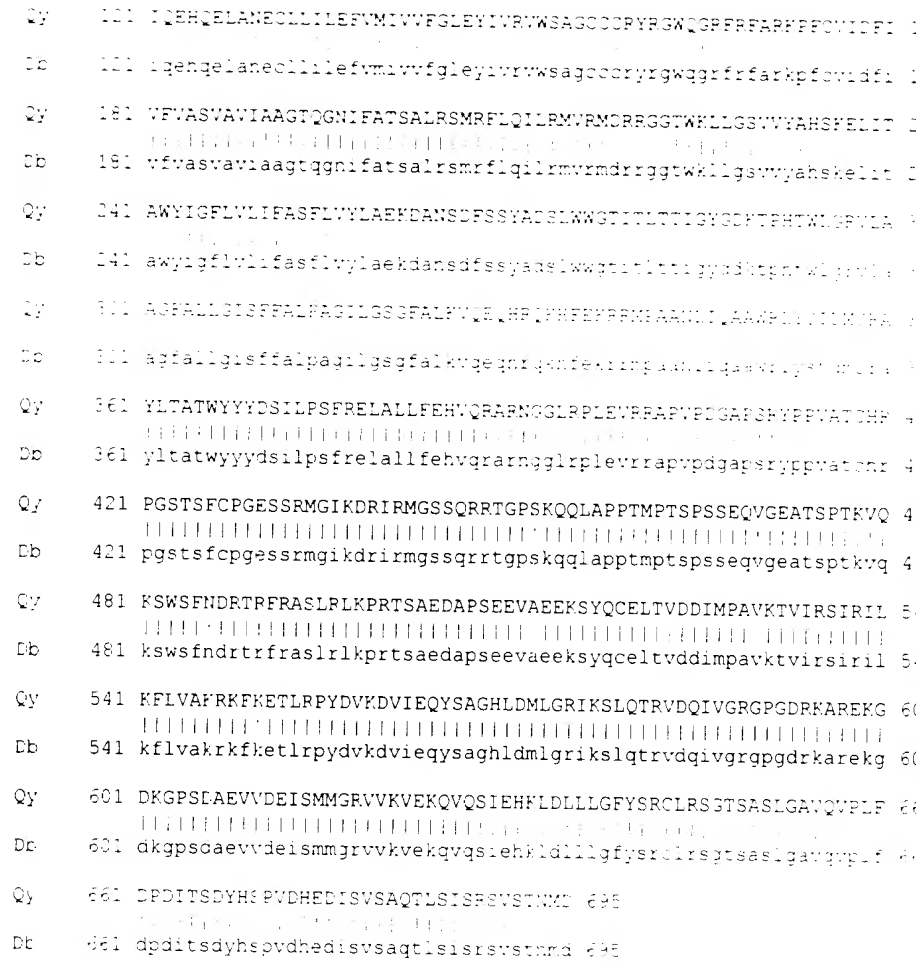

RESULT 1
PCT-US00-09587-4
; Sequence 4, Application PC/TUS0009587
; GENERAL INFORMATION:
; APPLICANT: Merck & Co., Inc.
; TITLE OF INVENTION: Novel Human Voltage-Gated Potassium
; TITLE OF INVENTION: Channel
; FILE REFERENCE: 20430 PCT
; CURRENT APPLICATION NUMBER: PCT/US00/09587
; CURRENT FILING DATE: 2000-04-10
; PRIOR APPLICATION NUMBER: 60/129,274
; PRIOR FILING DATE: 1999-04-14
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 4
; LENGTH: 695
; TYPE: PRT
; ORGANISM: Homo Sapiens
PCT-US00-09587-4

Query Match 100.0%; Score 3608; DB 1; Length 695;
Best Local Similarity 100.0%; Pred. No. 2.4e-295;
Matches 695; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

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RESULT 2
PCT-US00-09587A-4
; Sequence 4, Application PC/TUS00009587A
; GENERAL INFORMATION:
; APPLICANT: Merck & Co., Inc.
; TITLE OF INVENTION: Novel Human Voltage-Gated Potassium
; TITLE OF INVENTION: Channel
; FILE REFERENCE: 20430 PCT
; CURRENT APPLICATION NUMBER: PCT/US00/09587A
; CURRENT FILING DATE: 2000-06-23
; PRIOR APPLICATION NUMBER: 60/129,274
; PRIOR FILING DATE: 1999-04-14
; NUMBER OF SEQ ID NOS: 43
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 4
; LENGTH: 695
; TYPE: PRT
; ORGANISM: Homo Sapiens
PCT-US00-09587A-4

Query Match 100.0%; Score 3608; DB 1; Length 695;
Best Local Similarity 100.0%; Pred. No. 2.4e-295;
Matches 695; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

09492361results

SEQ ID NO 1

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DEFINITION  Sequence 1 from Patent W[illegible]
ACCESSION   AX[illegible]
VERSION     AX[illegible].1  GI:[illegible]
KEYWORDS    .
SOURCE      human.
  ORGANISM  Homo sapiens
            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
            Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
REFERENCE   1  (bases 1 to 2335)
  AUTHORS   Jentsch,T.J.
  TITLE     Novel potassium channels and genes encoding these potassium
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  JOURNAL   Patent: WO 0044786-A 1 03-AUG-2000;
            NEUROSEARCH AS (DK)
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RESULT   9
AAT85964
ID   AAT85964 standard; cDNA; 1182 BP.
XX
AC   AAT85964;
XX
DT   09-JAN-1998   first entry
XX
DE   Human K+ channel gene coding sequence.
XX
KW   Human; neuroblastoma; K+ channel; glioma; probe; diagnosis; detection;
KW   tumour; ds.
XX
OS   Homo sapiens.
XX
PN   JP09191882-A.
XX
PD   29-JUL-1997.
XX
PF   16-JAN-1996;   96JP-0004726.
XX
PR   16-JAN-1996;   96JP-0004726.
XX
PA    NISB ) JAPAN TOBACCO INC.
XX
DR   WPI; 1997-429182/40.
DR   P-PSDB; AAW14282.
XX
PT   DNA encoding new human K+ channel protein - useful for detecting
PT   glioma(s) and tumours
XX
PS   Claim 3; Page 10-12; 14pp; Japanese.
XX
CC   This is the nucleotide sequence encoding a novel human K+ channel
CC   protein which is expressed on human glioma cells.  The gene was isolated
CC   from a 3' directed cDNA library prepared from human neuroblastoma cell
CC   line CHP134.  The screen isolated a clone designated GS008740 whose
CC   insert contained the coding sequence (presented here) and the 5' and 3'
CC   sequences of the gene (AAT85965-6 respectively).  Expression of the gene
CC   was detected in neuroblastoma cell lines.  Oligonucleotides derived from
CC   the sequence of the K+ channel gene can be used as probes [illegible]
CC   human gliomas, and in the detection of new tumours.
XX
SQ   Sequence 1182 BP; 201 A; 372 C; 364 G; 245 T; 0 other;

  Query Match             23.1%;  Score 539;  DB 18;  Length 1182;
  Best Local Similarity   73.7%;  Pred. No. 3.7e-85;
  Matches  686;  Conservative    0;  Mismatches  245;  Indels  [illegible];  Gaps  [illegible];

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Qy    333 agaactgggtctacaacgtgctggagcggccccgcggctgggccttcgtctaccacgtct 392

Db    233 agaatttcctctacaacgtgctggagcggccgcgcggctgggcgttcatctaccacgcct 292

Qy    393 tcatattttgctggtcttcagctgcctggtgctgtctgtgctgtccactatccaggagc 452

Db    293 acgtgttcctcctggttttctcctgcctcgtgctgtctgtgttttccaccatcaaggagt 352

Qy    453 accaggaacttgccaacgagtgtctcctcatcttggaattcgtgatgatcgtggttttcg 512

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QA 431
.N363

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LOCUS       AF033348     3232 bp    mRNA            PRI       21-JAN-1998
DEFINITION  Homo sapiens potassium channel (KCNQ2) mRNA, complete cds.
ACCESSION   AF033348
VERSION     AF033348.1  GI:2801451
KEYWORDS    .
SOURCE      human.
  ORGANISM  Homo sapiens
            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
            Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
REFERENCE   1  (bases 1 to 3232)
  AUTHORS   Singh,N.A., Charlier,C., Stauffer,D., DuPont,B.R., Leach,R.J.,
            Melis,R., Ronen,G.M., Bjerre,I., Quattlebaum,T., Murphy,J.V.,
            McHarg,M.L., Gagnon,D., Rosales,T.O., Peiffer,A., Anderson,V.E. and
            Leppert,M.
  TITLE     A novel potassium channel gene, KCNQ2, is mutated in an inherited
            epilepsy of newborns
  JOURNAL   Nature Genet. 18 (1), 25-29 (1998)
  MEDLINE   98085864
REFERENCE   2  (bases 1 to 3232)
  AUTHORS   Singh,N.A., Charlier,C., Stauffer,D., DuPont,B.R., Leach,R.J.,
            Melis,R., Ronen,R.M., Bjerre,I., Quattlebaum,T., Murphy,J.V.,
            McHarg,M.L., Gagnon,D., Rosales,T.O., Peiffer,A., Anderson,V.E. and
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            Leppert,M
  TITLE     Direct Submission
  JOURNAL   Submitted  [illegible]-NOV-1997  Human Genetics, University [illegible]
            15N Room [illegible], Salt Lake City, UT 841[illegible], USA
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ORIGIN
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Qy        126 ccggggacgcccccccgcgcggagctagtggcgctcacggccgtgcagagcgaacagggcg 185
              || ||  |     |    |  | |||     | |       ||   ||     |  ||
Db        173 GGGGAGAAGAAGCTGAAGGTGGGCTTCGTGGGGCTGGACCCCGGCGCGCCCGACTCCACC 232

Qy        186 aggcgggcgggggcggctccccgcgccgcctcggcctcctgggcagcccccctgccgccgg 245
               ||   | || |  |       |  || | ||  ||| ||  |     | |  |  || | |
Db        233 CGGGACGGGGCGCTGCTGATCGCCGGCTCCGAGGCCCCCAAGCGCGGCAGCATCCTCAGC 292

Qy        246 gcgcgcccctccctgggccgggctccggctcggctccgcctgcggccagcgctcctcgg 305
                 |  |                    || |||||  |||  ||| |    |    || |
Db        293 AAACCTC--------------------GCGCGGGCGGCGCGGGCGCCGGGAAGCCCCCCA 332

Qy        306 ccgcgcacaagcgctaccgccgcctgcagaactgggtctacaacgtgctggagcggcccc 365
                ||    |||||||    |||| |||  |  | |||  | | |
Db        333 AGCGCAACGCCTTCTACCGCAAGCTGCAGAATTTCCTCTACAACGTGCTGGAGCGGCCGC 39[illegible]

Qy        366 gcggctgggccttcgtctaccacgtcttcatatttttg[illegible]
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Sequence Comparison A

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RESULT   3
AF033348
LOCUS       AF033348     3232 bp    mRNA            PRI       01-JAN-1999
DEFINITION  Homo sapiens potassium channel  KCNQ2  mRNA, complete cds.
ACCESSION   AF033348
VERSION     AF033348.1  GI:2801451
KEYWORDS    .
SOURCE      human.
  ORGANISM  Homo sapiens
            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
            Mammalia; Eutheria; Primates; Catarrhini; Hominidae; Homo.
REFERENCE   1  (bases 1 to 3232)
  AUTHORS   Singh,N.A., Charlier,C., Stauffer,D., DuPont,B.R., Leach,R.J.,
            Melis,R., Ronen,G.M., Bjerre,I., Quattlebaum,T., Murphy,J.V.,
            McHarg,M.L., Gagnon,D., Rosales,T.O., Peiffer,A., Anderson,V.E. and
            Leppert,M.
  TITLE     A novel potassium channel gene, KCNQ2, is mutated in an inherited
            epilepsy of newborns
  JOURNAL   Nature Genet. 18 (1), 25-29  1998
  MEDLINE   98085864
REFERENCE   2  (bases 1 to 3232)
  AUTHORS   Singh,N.A., Charlier,C., Stauffer,D., DuPont,B.R., Leach,R.J.,
            Melis,R., Ronen,R.M., Bjerre,I., Quattlebaum,T., Murphy,J.V.,
            McHarg,M.L., Gagnon,D., Rosales,T.C., Peiffer,A., Anderson,V.E. and
            Leppert,M.
  TITLE     Direct Submission
  JOURNAL   Submitted (06-NOV-1997) Human Genetics, University of Utah, 2030E
            15N Room 2100, Salt Lake City, UT 84112, USA
FEATURES             Location/Qualifiers
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BASE COUNT      576 a   1054 c   1061 g    533 t      8 others
ORIGIN


  Query Match             30.1%;  Score 711.8;  DB 49;  Length 711;
  Best Local Similarity   61.3%;  Pred. No. 3.8e-90;
  Matches 1273;  Conservative    1;  Mismatches  736;  Indels   43;  Gaps    4;
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